REMARKS

This is intended as a full and complete response to the Final Office Action dated December 14, 2004, having a shortened statutory period for response set to expire on March 14, 2005. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-64 remain pending in the application. Claims 1-64 are rejected. Reconsideration of the rejected claims is requested for reasons presented below.

Applicants propose amending claim 1 to include the limitations of claim 2 and canceling claim 2. Applicants propose amending claims 3-7, 17, 20, 23, and 26, which currently depend from claim 2, to depend from claim 1. Applicants propose amending claim 28 to include the limitations of claim 29 and canceling claim 29. Applicants propose amending claims 30-34, 44, 47, 50, and 53, which currently depend from claim 29, to depend from claim 28. Applicants submit that the changes proposed herein reduce the issues for appeal and do not introduce new matter.

Claims 55, 57-58, 60-61, and 63-64 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *White et al.* (U.S. Patent No. 6,286,230). The Examiner states that *White, et al.* discloses a first and second chamber (elements 10A and 10B), the first and second chamber each having one or more processing chambers attached thereto (Fig. 1), a load lock (elements 6 and 8) and two or more transition chambers which separate the first and second chamber (elements 28, 30, 32, and 34), the transition chambers each comprising a heating element disposed therein (Fig. 4, step 106). The Examiner asserts that elements 28, 30, 32, and 34, which are described as isolation valves between chambers 6, 10A, 10B, and 8 respectively in *White, et al.* (column 5, lines 28-30), are transition chambers because they function as chamber isolations as well as valves. The Examiner further asserts that *White, et al.'s* isolation chamber comprises heating and cooling elements and cites column 3, lines 20-39. Applicants respectfully traverse the rejection.

Applicants maintain that isolation valves 28, 30, 32, and 34 are simply valves that isolate adjacent chambers and are not isolation or transition chambers. Applicants further submit that *White, et al.* does not teach, show, or suggest that isolation valves

28, 30, 32, and 34, which are viewed as transition chambers by the Examiner, comprise a heating element.

With respect to the Examiner's assertion that Figure 4, step 106 of *White, et al.* discloses a transition chamber comprising a heating element, Applicants note that Figure 4 step 106 describes performing a thermal deposition or other substrate process on a substrate after it has been transferred to a process chamber 10A (column 8, lines 20-25). Applicants respectfully submit that a description of performing a heated process in a processing chamber does not provide a teaching or suggestion of two or more transition chambers each comprising a heating element disposed therein.

With respect to the Examiner's assertion that column 3, lines 20-39 of *White, et al.* discloses an isolation chamber comprises heating and cooling elements, Applicants note that column 3, lines 20-39 describes heating and cooling in respective input and output chambers but does not describe heating or cooling elements in transition chambers. As indicated in column 4, lines 60-62 of *White, et al.*, the input and output chambers are load lock chambers 6 and 8, rather than transition chambers.

Therefore, Applicants respectfully submit that *White, et al.* does not teach or suggest a semiconductor wafer processing system comprising two or more transition chambers each comprising a heating element disposed therein. Thus, *White, et al.* does not teach, show, or suggest a semiconductor wafer processing system, comprising a first and second chamber, the first and second chambers each having one or more processing chambers attached thereto, a load lock comprising a heating element and attached to the first chamber, and two or more transition chambers which separate the first and second chambers, the transition chambers each comprising a heating element disposed therein, as recited in claim 55. Applicants respectfully request withdrawal of the rejection of claim 55 and of claims 56-60, which depend thereon.

Furthermore, *White, et al.* does not teach, show, or suggest a semiconductor wafer processing system, comprising a chamber having one or more processing chambers attached thereto, a load lock comprising a heating element, the load lock being attached to the chamber, and two or more transition chambers within the chamber, each transition chamber comprising a heating element disposed therein, as

recited in claim 61. Applicants respectfully request withdrawal of the rejection of claim 61 and of claims 62-64, which depend thereon.

Applicants further traverse the rejection of dependent claims 57-58, 60, and 63-64. Regarding claims 57-58, 60, and 63-64, the Examiner asserts that *White, et al.* discloses a transition chamber comprising two wafer holders (20A and 20B) and a cooling plate (elements 96 and 98). Applicants note that 20A and 20B in *White, et al.* are substrates in end effectors 14 and 18 (Fig. 1, column 5, lines 22-26) and that cooling platen 96 and cooling assembly 98 (column 5, lines 9-13) are located in load lock 8. Applicants respectfully submit that the Examiner has not identified a transition chamber in *White, et al.* that includes a heating element and one or more of a wafer holder and a cooling plate. The Examiner is using the isolation valves 28, 30, 32, and 34 to provide a transition chamber, end effectors 14 and 18 having substrates therein to provide a transition chamber comprising a wafer holder, and load lock 8 to provide a transition chamber having a cooling plate. Thus, *White, et al.* does not show or suggest a transition chamber comprising two wafer holders and a heating element, as recited in claims 57 and 63, a transition chamber comprising a wafer holder and a heating element, as recited in claim 60, or a transition chamber comprising a cooling plate and a heating element, as recited in claims 58 and 64. Applicants respectfully request withdrawal of the rejection of claims 57-58, 60, and 63-64.

Regarding claims 56, 59, and 62, the Examiner asserts that *White, et al.* describes a transition chamber heating element comprising a lamp and resistive heater (column 5, lines 5-12). Applicants submit that column 5, lines 5-12 describe a heating assembly in a load lock 6 but does not describe a transition chamber heating element comprising a lamp, as recited in claims 56 and 62, or a transition chamber heating element comprising a resistive heater, as recited in claim 59. Applicants respectfully submit that the Examiner's assertions that isolation valves 28, 30, 32, and 34 are transition chambers and that a description of a heating assembly in a load lock 6 provides a disclosure of a heating element in the transition chamber do not illustrate a teaching or suggestion in *White, et al.* of a transition chamber heating element comprising a lamp or resistive heater. Applicants respectfully request withdrawal of the rejection of claims 56, 59, and 62.

Claims 1-54, 56, 59, 62 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *White, et al.* in view of *Stevens et al.* (U.S. Patent No. 6,375,746) on grounds that while *White, et al.* fails to specifically disclose partially preheating the wafer in the load lock and transition chamber, *Stevens, et al.* discloses partially preheating the wafer in the load lock and transition chamber. Applicants respectfully traverse the rejection.

Regarding claims 1 and 28, the Examiner states that *White, et al.* discloses introducing a wafer into a first load lock (Fig. 4, step 100) and transferring the wafer into a first transition chamber (Fig. 4, step 106). Regarding claims 2 and 29, which Applicants propose including in claims 1 and 28 respectively, the Examiner states that *White, et al.* discloses transferring the wafer into a processing chamber (Fig. 4, step 104), performing a processing step on the wafer in the processing chamber (Fig. 4, step 108), and transferring the wafer into a second load lock (Fig. 4, step 112). Applicants agree that *White, et al.* describes introducing a wafer into a load lock at Fig. 4, step 100, transferring the wafer into a process chamber at Fig. 4, step 104, and transferring the wafer into a second load lock at Fig. 4, step 112. However, Applicants respectfully submit that Fig. 4, step 106 describes performing a thermal deposition or other substrate process on a substrate after it has been transferred to a process chamber (column 8, lines 20-25), and does not describe transferring a wafer into a transition chamber, as asserted by the Examiner. Furthermore, Applicants respectfully submit that Fig. 4, step 108 describes transferring a wafer from a first process chamber to a second process chamber, and does not describe performing a wafer processing step in the processing chamber, as asserted by the Examiner.

Regarding the Examiner's assertion on page 6 of the Final Office Action dated December 14, 2004 that *White, et al.* discloses partially preheating a wafer in a transition chamber (column 3, lines 20-27), Applicants note that column 3, lines 20-27 describe heating in an input chamber but does not describe heating in a transition chamber. Thus, Applicants submit that *White, et al.* does not teach or suggest transferring a wafer into a first transition chamber and partially preheating the wafer in the first transition chamber.

Furthermore, Applicants maintain that *Stevens, et al.* does not describe partially preheating a wafer in the transition chamber. *Stevens, et al.* describes a load lock having the capability to heat a wafer but does not describe a transition chamber or partially preheating a wafer in the transition chamber. As neither *White, et al.* nor *Stevens, et al.* describes partially preheating a wafer in a transition chamber, *White, et al.* and *Stevens, et al.*, individually or in combination, do not teach, show, or suggest a method comprising introducing a wafer into a first load lock, partially preheating the wafer in the first load lock, transferring the wafer into a first transition chamber, partially preheating the wafer in the first transition chamber, transferring the wafer into a processing chamber, performing a processing step on the wafer in the processing chamber, and transferring the wafer into a second load lock, wherein the second load lock is either the same or a different load lock than the first load lock, as recited in amended claims 1 and 28. Applicants respectfully request withdrawal of the rejection of claim 1 and of claims 3-27, which depend thereon. Applicants respectfully request withdrawal of the rejection of claim 28 and of claims 30-54, which depend thereon.

Since *White, et al.* and *Stevens, et al.*, individually or in combination, do not teach or suggest a system comprising two or more transition chambers each comprising a heating element disposed therein, *White, et al.* in view of *Stevens, et al.* does not provide all of the limitations of claim 55, upon which claims 56 and 59 depend. Applicants respectfully request withdrawal of the rejection of claims 56 and 59.

Furthermore, *White, et al.* in view of *Stevens, et al.* does not provide all of the limitations of claim 61, upon which claim 62 depends. Applicants respectfully request withdrawal of the rejection of claim 62.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

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